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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PING LIU

Appeal 2007-3127
Application 09/954,612
Technology Center 2100

Decided: February 11, 2008

Before JAMES D. THOMAS, ALLEN R. MACDONALD, and THU A. DANG, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF CASE

Appellant appeals the Examiner's final rejection of claims 9, 10, 12, 13, 16-23, and 25-29 under 35 U.S.C. § 134(2002). We have jurisdiction under 35 U.S.C. § 6(b)(2002).

A. INVENTION

According to Appellant, the invention is a mechanism for providing zero power control of a computer peripheral. The mechanism comprises a switch electrically connected to a card detecting pin of the host device. The switch is operated by a retractable antenna of the card. In this respect, when the antenna is in a retracted position, the switch generates a "removed" signal to the card detecting pin. The "removed" signal simulates that the computer peripheral has been removed from the host device such that the operating software of the host device will not supply power to the card. On the other hand, when the switch detects the antenna in the extended state, the switch will generate an "inserted" signal to the card detecting pin. The "inserted" signal informs the host device operating system that a card has been inserted and that power should be applied to the card (Spec., Abstract).

B. ILLUSTRATIVE CLAIM

Claim 9 is exemplary and is reproduced below:

9. A method of controlling power to a peripheral device insertable into a host device, the method comprising the steps of:

a) simulating an insertion of the peripheral device with a switch by generating an inserted signal upon extension of an antenna of the peripheral device such that the host device supplies power to the peripheral device, wherein extension of the antenna moves a lever coupled to the switch to generate the inserted signal; and

b) simulating a removal of the peripheral device with the switch by generating a removed signal upon retraction of the antenna of the peripheral

device, wherein retraction of the antenna moves the lever such that the switch causes the host device to terminate power to the peripheral device and antenna.

C. REJECTIONS

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Fuller	US 5,768,605	Jun. 16, 1998
Johnson	US 6,573,868 B2	Jun. 3, 2003 (filed Feb. 28, 2001)

Claims 9, 10, 12, 13, 16-23, and 25-29 stand rejected under 35 U.S.C. § 103(a) over the teachings of Fuller and Johnson.

We affirm.

II. ISSUES

The issues are whether Appellant has shown that the Examiner erred in finding that claims 9, 10, 12, 13, 16-23, and 25-29 are unpatentable under 35 U.S.C. § 103(a) over the teachings of Fuller and Johnson.

III. FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

Fuller

1. Fuller teaches introducing communication or network capability into a computer system that limits unnecessary power consumption and that remains compatible with the PCMCIA standard, wherein when no means for communication is connected to the PCMCIA communication card, no power is applied to the card, and once a means for communication is connected, power is applied to the PCMCIA communication card so that it can begin operation (col. 2, ll. 18-32).
2. If the PCMCIA card 40 is already inserted into the PCMCIA slot in computer system 10, inserting cable connector 80 will couple nodes CD#1 and CD#2 to ground through the cable connector 80 and the PCMCIA card 40, causing computer system 10 to "detect" the presence of the PCMCIA card 40. Computer system 10 will then activate the PCMCIA card 40 by applying power to the card. Causing computer system 10 to apply power only when the PCMCIA card 40 is in place and the cable connector 80 is inserted achieves the goal of having the PCMCIA card 40 consume power only when a means for communication is connected (col. 4, ll. 27-48; Fig. 5).

3. In one embodiment, Fuller discloses that the cable connector is connected via a retractable communication coupler 364 connected to a switch 350. When the retractable communication coupler 364 is in position P1, no cable connector or other means for communication can be connected to PCMCIA card 340, and switch 350 therefore acts to decouple card detect nodes from ground 116 that power is not applied to the PCMCIA communication card 340. When the retractable communication connector 364 is in extended position P2, means for communication can be coupled to PCMCIA communication card 340, and therefore switch 350 decouples nodes allowing computer system 10 to detect the presence of the card (col. 5, ll. 10-37; Fig. 7).
4. The cable connector 80 is connected to an antenna (col. 6, ll. 1-4).

Johnson

5. Johnson discloses an antenna system wherein the antenna is only operable in the extended position and not the retracted position in order to conserve power and prevent electrical interference with other components in the electronic device (col. 3, ll. 6-9).
6. The antenna is a retractable pop-out antenna that is sized and configured to be attached to a thin architecture PCMCIA card for use in a portable computer. The circuitry or other components necessary

for wireless communication may be located in the communications card and electrically connected to the antenna (col. 3, ll. 26-33).

7. The antenna can be removably attached to the PCMCIA card (col. 3, ll. 37-38).

8. When the antenna 50 is located in the extended position 158, the control circuit indicates the antenna 50 should be capable of transmitting and receiving wireless signals, and the control circuit 156 controls the switch 154 to allow electrical power to be supplied to the antenna. The retracted position 162 causes the control switch 150 to indicate that the antenna or antenna system should not be operable, which causes the control circuit 156 to control the switch 154 to disengage the electrical power from the antenna 50 (col. 13, ll. 1-15; Figs. 6A-6B).

IV. PRINCIPLES OF LAW

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

The Supreme Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR,* 127 S. Ct. at 1739. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 1740. The Court noted that "[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 1742.

The Federal Circuit recently concluded that it would have been obvious to combine (1) a device for actuating a phonograph to play back sounds associated with a letter in a word on a puzzle piece with (2) a processor-driven device capable of playing the sound associated with a first letter of a word in a book. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007). In reaching that conclusion, the Federal Circuit recognized that "[a]n obviousness [determination] is not the result of

a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not." *Id.* at 1161 (citing *KSR*, 127 S. Ct. 1727, 1739 (2007)). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Id.* (citing *KSR*, 127 S. Ct. at 1740-41).

In the absence of separate arguments with respect to claims subject to the same rejection, those claims stand or fall with the claim for which an argument was made. *See In re Young,* 927 F.2d 588, 590 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

V. ANALYSIS

35 U.S.C. § 103(a)

No teaching away

Appellant argues that the combination of the teachings of Johnson with those of Fuller is improper because Johnson "expressly teaches away from the limitation of 'terminating power to the peripheral device and the antenna', as recited in Independent Claims 9, 16, and 25." Appellant references col. 4, ll. 4-10 and col. 12, ll. 58-60 of Johnson which states that "other features of the communications card and/or electronic device,

however, may still be usable even though wireless communication is not possible" (App. Br. 9-10; Reply Br. 2).

The Examiner's observed, beginning at page 5 of the Answer with respect to Johnson, that Johnson is only being relied upon to teach a switch that activate/deactivate the power supplied to an antenna according to the position of the antenna. We agree with the Examiner that such teachings of Johnson do not expressly teach away from powering off the computer card (peripheral device) upon powering off of the antenna, but rather, Johnson provides the additional teaching that the antenna may also be powered off to conserve power consumption.

We further find that a teaching that the peripheral device *may* still be usable even if the antenna is deactivated, as in Johnson, does not teach away from the limitation of 'terminating power to the peripheral device and the antenna' at least because the deactivation of the antenna is separate from the functioning of the peripheral device. Thus, deactivating the antenna does not require the activation or deactivation of the independently functioning peripheral device, and therefore does not teach away from the combined teaching of powering off of both the peripheral device and the antenna.

A reference teaches away "when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). In this case, Appellant has not pointed to any disclosure in Johnson

or Fuller which would have led a person of ordinary skill not use Johnson's antenna in Fuller's peripheral device. Appellant also has not provided any technical reason as to why an antenna would not be able to be deactivated in addition to the deactivation of a peripheral device. Thus, we see no error in the Examiner's findings or his conclusion.

Instead of teaching away, Fuller discloses that the peripheral device may be attached to an antenna (FF 4). Similarly, Johnson discloses that the antenna may be attached to a peripheral device (FF 7). Appellant has not shown that it would not have been obvious to combine the peripheral device of Fuller with the antenna of Johnson.

Adequate reason to combine

Appellant argues that the combination of teachings of Johnson with those of Fuller is improper because there is no motive for the cited combination of the Fuller and Johnson (App. Br. 10-11; Reply Br. 2).

The Examiner's initial position as to the motivation to combine on appeal beginning at page 4 of the Answer and the Examiner's corresponding responsive arguments beginning at page 5 of the Answer appear to us to meet all of the limitations required by the independent claims on appeal. The Examiner's reasoning of combinability appears to us to comply with the requirements of the above-noted case law. We agree with the Examiner's observations that it would have been obvious to combine the teachings of Fuller and Johnson, because by adding the deactivation of the antenna as

taught by Johnson to the deactivation of the PCMCIA card of Fuller, Fuller's intended purpose may be fulfilled and power consumption of Fuller's system may be further reduced.

Both Fuller and Johnson disclose introducing communication or network capability into a computer system that limits unnecessary power consumption and that remains compatible with the PCMCIA standard, by powering off a device upon a switch indicating a retracted position (FF 1 and 5). Fuller discloses that when a retractable communication coupler is a first position, no cable connector or other means for communication can be connected to PCMCIA card, power is not applied to the PCMCIA card, and when the communication coupler is in a second retracted position, a cable connector connected to an antenna is connected to the PCMCIA card, and the switch allows power to be applied to the card (FF 2-4). Johnson discloses an antenna removably attached to a PCMCIA card, wherein when the antenna is located in the extended position, power is supplied to the antenna, and when the antenna is in a retracted position, power is disengaged from the antenna (FF 6-8). Incorporating Johnson's antenna power deactivation step into Fuller's step of terminating power to the entire computer card does not change the function of either Johnson's antenna or Fuller's PCMCIA computer card. Rather, Fuller's powering off process is merely extended to include further powering off the antenna attached thereto. The combination yields an expected result of terminating power to

the computer card and the antenna attached thereto, thereby reducing the desired power consumption.

Appellant has provided no evidence that incorporating Johnson's termination of power to the antenna into Fuller's termination of power to the entire computer was "uniquely challenging or difficult for one of ordinary skill in the art," *Leapfrog*, 485 F.3d at 1162, nor has Appellant presented evidence that this incorporation yielded more than expected results. Rather, Appellant's invention is simply an arrangement of the known teaching of powering off of a PCMCIA card with the known teaching of powering off of an antenna, yielding the expected result of powering off of both the PCMCIA card and the antenna. "[W]hen a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious." *KSR,* 127 S. Ct. at 1740 (citing *Sakraida v. AG Pro, Inc.*, 425 U. S. 273, 282 (1976)).

All elements are taught

Appellant argues "Fuller and Johnson together do not teach each and every limitation in Claims 9, 16, and 25" (App. Br. 11). Appellant repeats the argument that "Johnson teaches that power is still applied to the peripheral device after the antenna is retracted" (App. Br. 12; Reply Br. 2).

The Examiner's position as to disclosing the claimed elements on appeal beginning at page 3 of the Answer and the Examiner's corresponding

responsive arguments beginning at page 5 of the Answer appear to us to meet all of the limitations required by independent claims 9, 16, and 25 on appeal. The claims are rejected over the combined teachings of Fuller and Johnson, and not Johnson alone, wherein Fuller discloses that when a retractable communication coupler is a retracted position, power is not applied to the PCMCIA card, and Johnson discloses that when the antenna is in a retracted position, power is disengaged from the antenna (FF 2-4 and 6-8). We find that Appellant has not shown that the Examiner erred in finding that the combined teachings of Fuller and Johnson disclose each and every recited element.

We conclude that the Appellant has not shown that the Examiner erred in rejecting claims 9, 16, and 25 as unpatentable over the teachings of Fuller and Johnson.

As to the other recited elements of claims 9, 16, and 25, Appellant provides no argument to dispute that the Examiner has correctly shown where all these claimed elements appear in the prior art. Thus, we deem those arguments waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).

Accordingly, we conclude that the Appellant has not shown that the Examiner erred in rejecting claim 9, 16, and 25 under 35 U.S.C. § 103(a). Because claims 10, 12, 13, 17-23, and 26-29 fall with claims 9, 16, and 25, we conclude that Appellant has not shown that the Examiner erred in rejecting claim 10, 12, 13, 17-23, and 26-29 under 35 U.S.C. § 103(a).

CONCLUSIONS OF LAW

(1) Appellant has not shown that the Examiner erred in finding claims 9, 10, 12, 13, 16-23, and 25-29 are unpatentable over the teachings of Fuller and Johnson.

(2) Claims 9, 10, 12, 13, 16-23, and 25-29 are not patentable.

DECISION

The Examiner's rejection of claims 9, 10, 12, 13, 16-23, and 25-29 under 35 U.S.C. §103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

rwk

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